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AUTHOR Auxter, David
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ABSTRACT

Physical education programs, like other kinds of instruction, should individualize instruction to suit the interest and ability level of each student. A significant part of individualized programs is the use of behavioral objectives and criterion referenced tests, by which the student moves through a learning sequence at his own rate. Individualized instruction is beneficial for the normal child, but it is especially suited for the gifted or handicapped child. Public Law 14-142, passed in December of 1975, specifically mandates instructional programs for handicapped children. Under its provisions, programs must have learning objectives and meaningful evaluation procedures to ensure accountability in the delivery of educational services to all children. (CD)

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INDIVIDUALIZED PHYSICAL EDUCATION

by
David Auxter
Slippery Rock State College

There is growing awareness on the part of educators as to the differences among individuals in educational performance. (Martin 1975) indicates that 20-40% of school age children differ significantly in behavioral types to warrant individual attention. These children may function on educational performance level above or below normative performance in educational placement based on grouped norms. The central focus of an individualized program in this discussion on meeting the measured needs not only for children who fall outside of normative ranges of educational performance but of all children in our public schools.

WHAT IS EDUCATION

Education is the change of behavior toward preconceived goals. Thus, there are two critical concerns for the physical educator. They are: 1) the formulation of appropriate goals for specific learners and 2) methods and procedures which may be employed to effectuate behavioral change in a positive direction to achieve prestated goals. The mission of the individualized education is to plan and conduct with each child programs according to his learning needs and learning characteristic. Such a program becomes the vehicle of changing behavior and is focused on pursuing relevant goals which meet the needs for a specific learner.

THE HISTORICAL DEVELOPMENT OF INDIVIDUALIZED EDUCATION

The process of individualizing education means different things to different persons. Some of the concepts of individualization involve:

1) one-to-one pupil-teacher interaction
2) teaching a group with individual feedback to a specific learner
3) working with the interests of the individual child

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4) providing independent study for the student

5) and many other notions.

The central problem that has confronted the educator has been the inability to make the microdecisions for individual students that enable measured progression in educational content toward pre-planned goals.

THE UNGRADED SCHOOL

In the middle 1960's the ungraded school emerged. The central focus of this form of education was to enable each pupil to progress in the educational system at their own rate. However, educational procedures were directed at the formulation of homogeneous groups for instruction. Children were taught in groups and when learners mastered content materials they were moved to higher classified learning groups. In the academic area, children who were functioning at a normative third grade level might be of 7, 8, 9, 10 years of age the variable for grouping was educational performance not chronological age. However, the overwhelming concensus of opinion of educational personnel who experimented with this approach was that each individual was different and each child needed a program that was tailored to his unique needs. New procedures began to emerge to cope with the individual differences of children.

EDUCATION FOR CHILDREN BASED UPON NEED AND INTEREST

One of the central obligations of a teacher is to meet the needs of children. Needs are usually derived from predetermined societal expectations expressed in outcomes of learning in the schools which will enable the child to function in a self-fulling and independent person in society. More often than not, in education, needs are long ranged. Interests, on the other hand are usually the property of the student, and represent some immediate desire of the child.

If the interests and the needs of a child coincide, usually there is intrinsic motivation on the part of the child to achieve instructional objectives. If the child is not interested in those areas of development for which needs have been assessed by the teacher it is desirable to attempt to interest children to pursue their needs. However, when there is direct conflict between the pupil interest and the instructional needs determined by teacher assessment a knotty problem arises. Although it can be argued as to which path to follow with a specific child, more often than not, the needs of children hold higher priority over the child's interests. Therefore, the position of the teacher in the individualized educational system is to meet the needs of children. This supports the main mission of the educational system to "change of behavior of the pupil toward preconceived goals."

PUPIL CENTERED INDIVIDUALIZATION

The conflict of educating children according to need or interest has been a central issue in education during the late 1960's and the early 1970's. A decision must be made whether to base instruction on the behavioral objective which is an outcome of measurement to determine need or individualization according to interest which in many instances involves subjective educational performance. Pupil centered individualization usually involves determining what the pupil can do, what he likes to do, then making provisions for his preferences in a learning situation. The learner under these conditions, for the most part, determines instructional activity. For example, if one is to learn to read, the child will be permitted to find interesting reading material, his interests will then involve him in the reading skill and through interest he will learn to read. In physical education, a determination will be made on the

interests of the learner, then once determined, opportunities will be provided for him to express his interest usually within the framework of existing abilities. This type of an approach is anti-thetical to those in which there is formulation of behavioral objectives to reach predetermined goals.

EMERGENCE OF THE LEARNING BY OBJECTIVES

In direct opposition to the approach of individualization where learner interest is primary and need is secondary, is instruction by behavioral objectives. The needs of the individual are primary and interests of the learner are important. However, if there is a choice to be made, the needs of learners are of priority. Furthermore, the ushering in of the behavioral objective, provides opportunity for agreement among the child, teachers, parent, administrators and all parties concerned with the educational progress of the child. Such an approach indicates where a child is in a sequence of objective, where he should be and a plan of action to facilitate educational progress. Thus, this system of individualization enables concerted efforts of all persons involved with the educational progress of the child. It ushers in a systematic instructional approach where several persons can become assistive in the developmental progress of an individual and there can be common agreement among all as to 1) what is to be taught, 2) when it is mastered, and 3) what the next instructional activity is that will assist the educational progress of an individual child.

WHAT IS A BEHAVIORAL OBJECTIVE

A behavioral objective is concerned with a specific action which the student will perform as a result of practice on a task. Furthermore, for the purposes of physical education programs, the behavioral

objectives must be specific. An example would be: walk a 4" balance beam, hands on hips in a heel-toe position for ten steps without a fall-off. The behavioral objective specifies the following:

1) Action: walking

2) Conditions: a 4" beam with the hands on the hips and in a heel-toe position

3) Criterion measure: 10 steps without a fall-off

All behavioral objectives must contain actions to be performed, the conditions for performance and a criterion measure. Furthermore, the behavioral objective must be of such a nature that the student does not already have the behavior in his repertoire. To specify an objective that a student has already mastered is not a worthy behavioral objective.

WHY MUST THERE BE BEHAVIORAL OBJECTIVES

There must be behavioral objectives so that the teacher and the pupil both know the expectations of instruction. It is the vital link between the pupil and teacher that enables communication of what is to be achieved in the instructional process.

WHAT IS A HIERARCHY

A hierarchy is a continuum of ordered events in which a task of a lower order and of lesser difficulty is prerequisite to acquisition of a task of higher order and greater difficulty. Therefore, they may serve as measuring instruments for the development of students and provide answers to three vital educationally relevant questions: 1) Where is a pupil on the hierarchy? 2) What activities should be provided next to enable development to occur up the hierarchy? and 3) How much development has occurred? Furthermore, the hierarchy in some instances answers

the question, "Is a given pupil within the range of normality on a specific ability characteristic represented by a task on the hierarchy?" Under normal conditions it may be expected that over a specific period of time, performance will fall within an appropriate range of activities on the hierarchical continuum. If a pupil falls on the continuum above normative standards, he is developmentally accelerated in the specific characteristic represented by the hierarchical continuum. However, on the other hand, if a pupil is lagging behind expected normative performance measures expressed by specific activities on the hierarchical continuum, it draws attention to the need for a concerted effort to enhance the specific characteristic expressed by a constructed hierarchy. Thus, maldevelopment of a particular characteristic brings attention to a pupil's need.

WHAT IS A CRITERION REFERENCE TEST?

A criterion reference test indicates a score at the top of a scale indicating mastery of some defined ability. The criterion referenced test tells us in meaningful terms what a person knows or can do, and yields measurements that are directly interpretable in terms of specified performance standards. They are specifically constructed to support generalizations about an individual's performance relative to specified domain of tasks or fulfillment of a task which is prerequisite to another higher ordered task.

WHY MUST CRITERION MEASURES BE APPLIED TO ACTIVITIES?

Criterion referenced tests are specifically designed to provide information that is directly interpretable in terms of specific performance standards. This means that performance standards must be established prior to administration of the activity for the purpose

of assessing the individual's status with respect to these standards. However, once the standard is established, it provides a tangible aid to the teacher to move the child to the next activity in the sequence. If the criterion measure is appropriately established, it tends to control, with some precision, the amount of prerequisite behavior needed for success in the next activity in the hierarchy. Therefore, activities in a sequence are made more purposive in the learning process by application of criterion referenced measurement.

EMERGING FORMS OF INDIVIDUALIZATION

There are currently several emerging forms of the individualization systems in education. One is the individually Prescribed Instructional System at the University of Pittsburgh, another at the Individually Guided Education at the University of Wisconsin. Specific to Physical Education are the I CAN materials from Michigan State University and the Personalized learning System from Omaha, Nebraska. Each of these dissemination centers have materials available for the implementation of a systematic individualized instructional approach. Other materials from other companies and universities are in progress. Procedures are available for the construction of such sequential materials (See Becker, Engelman and Thomas, 1973).

COMMON PROPERTIES OF MATERIALS FOR INSTRUCTION

There are several distinct properties of instructional materials which enable the processes of individualization to unfold. Some of these properties are as follows:

1) The activities must be programmed so the assessment of the educational performance of the pupil can be paired with programming to produce educational progress.
2) The programs are composed of behavioral objectives which are sequenced.
3) The sequences should be prearranged prior to instruction.
4) The instructional objectives should be stated in measureable terminology so abilities can be identified and educational progress of each child determined.
5) The instructional materials must be such that they include children with a wide range of abilities.

Instructional materials with these characteristics, makes it possible to select appropriate programming for a specific child, determine current educational performance, and then plot educational progress through the programmed learning materials.

PROGRAMS THAT CEILING

Many programs ceiling for specific learners. "Ceiling" means that the learner has mastered the terminal task of the program. If this be the case, the program is no longer appropriate for that specified

learner. Either one of two things must occur under these conditions. They are: 1) move the child to another program or set of tasks or 2) add hierarchically to the existing structure. Either course of action will enable sustained educational progress.

PROGRAMS IN WHICH LEARNERS CANNOT MASTER THE FIRST ACTIVITY

Some learners may not be able to perform the first step in a program. If this be the case, employ the procedure of task analysis. Task analysis begins with any desired instructional objective, behaviorally stated and asks the question "to perform this behavior, what prerequisites must the learner be able to perform?" For each behavior so identified, the same question is asked. Thus, generating a hierarchy of objectives based on testable prerequisites (Glaser & Nitko, 1970). With such a procedure the analysis can begin at any level and continue until the ability level of a specific learner is reached.

WHO DOES THE SYSTEM SERVE

The individualized learning systems that have been described serve the majority of the learners, if the instructional materials are constructed appropriately. Therefore, the curricula developer is challenged to development materials which will service the broad spectrum of children.

THE GIFTED CHILD

The individualized process serves the exceptional child who is talented. Under instruction that is directed toward mean performance of a group, the talented learner's abilities are surpressed. However, when an instructional system is individualized the learner is free

to progress at his own rate. Furthermore, if the individualized process is well managed, the gifted learner may develop abilities in which he may assist his peers with instruction. Such a procedure has invaluable social benefits as well as enhancement of skills to slower learners.

THE NORMAL CHILD

Individualized Physical Education also serves the pupils who, for the most part, develop at average rates because capability is built into programming to focus on particular needs as indicated by a profile which is the outcome of assessment procedures. However, more often than not, when the data on a given child is reviewed, each child usually exhibits strengths and weaknesses on an extensive profile of abilities. Therefore, specific activity is selected according to measured need. The individualized program possess the capability of developing skills and abilities commensurate with a pre determined plan made by the teacher, parent and child whether he be normal or not.

THE HANDICAPPED CHILD

If the individualized program is of benefit to the talented and the so called normal child, it is a necessity for the handicapped child. His/her education must be carefully studied so that the educational intervention over the formal years of schooling optimizes the potential of the child. In many instances the carefully planned and implemented program for the handicapped child is the differences in abilities to adapt to vocational and community living arrangements which require

motor skills.

P.L. 94-142

In December 1975, Congress enacted Public Law 94-142 "Education for All Handicapped Children." The central focus of this legislation was directed toward individualized planning for each handicapped child. It is estimated that 25-40% of children in the public schools possess learning styles which differ from the norm to such an extent that individual attention is required. A considerable number of children in our public schools fall under the jurisdiction of the legal aspects. of P.L. 94-142.

Implicit in the legislation is a strict system of educational accountability. Since education is a life-long process, it is essential that educators identify where children "are" in a developmental sequence and where they "should be" so that appropriate individual written programs can be developed. Thus the educators will be held accountable for their ability to move children through this sequence to predetermined time intervals. The new legislation, if implemented according to meaningful regulations, will foster learning of all handicapped children.

The educator, under the new law, would be responsible for stating annual goals. However, specific regulations for the generation of the goals should be stated to insure the goals are related to the educational program of the child. The regulations should include:

1) Annual goals stated in all aspects of the child's Physical Education curricula.
2) Annual goals which are statements of projected levels of functioning in the curriculum sequence over a one year time interval.

3) New annual goals which are projected upon completion or revised upon annual review.

A statement of annual goals within a learning sequence would insure that relevant educational programming is occurring in a school system. The physical educators who states annual goals apart from the curriculum may be liable for providing irrelevant educational experiences for children.

The instructional objectives are links in the instructional process that move children from current stated performance levels to projected educational goals. The regulations that will be developed need to address this area so that educators are consistent in identifying instructional objectives which foster learning that is accountable. It is important that the regulations be directed towards instructional objectives which encompass the following:

1) The instructional objectives are related in the curriculum as sequential and hierarchical.
2) The instructional objective is a response required of the learner immediately beyond the current performance level.
3) All concerned parties can determine when the instructional objective is achieved because of its measurable behavioral characteristics.
4) All classroom activities must directly relate to the instructional objectives.

Through purposeful planning, the educator can direct resources to facilitate the learner's acquisition of instructional objectives. It is through this process that learning can be measured and monitored by all parties concerned with the educational welfare of the handicapped child.

A child cannot be segregated from the regular classroom unless reasons for such movements can be justified. The movement must be justified in terms of the least restrictive setting to implement the child's individual educational plan. The segregation of children, especially the mildly retarded, will be challenged to greater extent with the new law emphasizing individualization. If there is need to segregate handicapped children, this cannot be considered permanent, thus efforts must be made towards integration to the greatest extent on projected dates.

Periodic review of a child's progress must be always examined within the instructional process. This would require the educator to present on paper, to parents, their child's projected goals and current progress in the instructional sequence. Periodic review in this manner would foster learning and keep children from remaining in inappropriate placements.

The central theme implicit in P.L. 94-142 is educational accountability by the Local Educational Agency for the educational progress of handicapped children. In essence, assessment yields data on current educational performance in a sequence of instructional objectives which lead to individually planned goals for each handicapped child. P.L. 94-142 desecibes a process of implementation which enables objective monitoring and evaluation of delivery of services to handicapped children. Many educational practices which were employed in the past which were subsumed under "diagnostic-Prescriptive" practices ("individualization") are no longer in compliance with P.L. 94-142.

UNACCEPTABLE DIAGNOSTIC -PRESCRIPTIVE PRACTICES

P.L. 94-142 is definitive concerning the process of individualized delivery of services to handicapped children. The following are unacceptable practices in program implementation, as they apply to the process of delivering educational services to handicapped children.

1) Utilization of assessment data for educational planning for which there is no related programming:
   PRESENT EDUCATIONAL PERFORMANCE IS ASSESSMENT OF PUPIL PLACEMENT WITHIN A SEQUENCE OF INSTRUCTIONAL OBJECTIVES
2) Inclusion of instructional objectives which are not a direct function of the assessment instrument, and provide limited information as to where a child is in development in relationship to stated goals.
3) Planned goals which are not behavioral and do not relate to assessment instruments.
4) Instructional objectives which are unrelated to hierarchical progressions and are irrelevant to planned goals.
5) Planned goals and objectives which are currently within the behavioral repertoire of the handicapped child.
6) Pre and Post assessment of children by an instrument for which there is no hierarchical sequence of instructional objectives and/or are unrelated to individually planned instructional objectives. There is little behavioral reproductability of process which provides definitive information about learners enroute to planned goals.
7) Sequential hierarchical curricula which are ineffectively constructed to the extent that they are not reproductable by another, and are incapable of providing evaluative information of learner progress toward the goals of the individual plan.

EVALUATION AND MONITORING P.L. 94-142

It is clear that evaluation of the attainment of instructional objectives is directly related to the evaluation of the constructional effectiveness of sequenced instructional materials.

P.L. 94-142 describes a PROCESS for conducting of implementation of educational practices which enables objective monitoring of the delivery of services to children and the measurable behavioral outcomes of such services. Therefore, the following evaluation procedure is suggested.

Step 1.

Secure the instructional hierarchical sequences of instructional objectives from the Local Educational Agencies. If there is no evidence of such sequential systematic instructional materials, administrative units will not be in compliance with P.L. 94-142.

Step 2.

Evaluate the sequences of instructional objectives for constructional effectiveness. The instructional sequence is the measuring instrument for current educational performance and measured progress of children toward planned goals.

Step 3.

Visit the school to determine if reported data matches current educational performance. This is done only if there is compliance with appropriate selection of curricula materials in steps 1 and 2.

Step 4.

Extend the evaluation process to other aspects of the program. This may include evaluation of plans, learner progress, teacher competency, attainment of stated goals, parental consultation, etc.

SUMMARY

It is now recognized that modern society requires that schools provide quality education to our children. To accomplish this end, individualized instruction is a necessity. In the past, there has been a debate as to how individualized education should take place. However, the approach, as the result of P.L. 94-142, now possesses a set of legally defined practices which are to be employed by educational personnel who deliver services to the handicapped. They require that each child receive an individualized educational program that: 1) identifies current educational performance of such child, 2) postulates annual instructional goals to be reached by each learner, 3) formulates short term instructional objectives, 4) possesses objective criterion for evaluation. As Reynolds (1975) indicates, "the good school is one that can aggregate its micro level decisions and say in truth that it serves the children - each of them - equally, individually and well." Public Law 94-142 is directed toward employment of individualized instructional procedures which will be a positive force in the development of the "good school" for the handicapped. In due time such instructional procedures will possess a legal base for all children.

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